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*Snow Surveyors Climbing to a Snow Course*

FEDERAL-STATE COOPERATIVE  
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

ARIZONA

MARCH 15, 1946



By

Division of Irrigation, Soil Conservation Service  
United States Department of Agriculture

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Data included in this report were obtained by the agency named above in cooperation with the Federal, State, and local organizations listed on the last page of this report.



# ARIZONA COOPERATIVE SNOW SURVEYS

## SNOW COURSES AND DRAINAGE BASINS

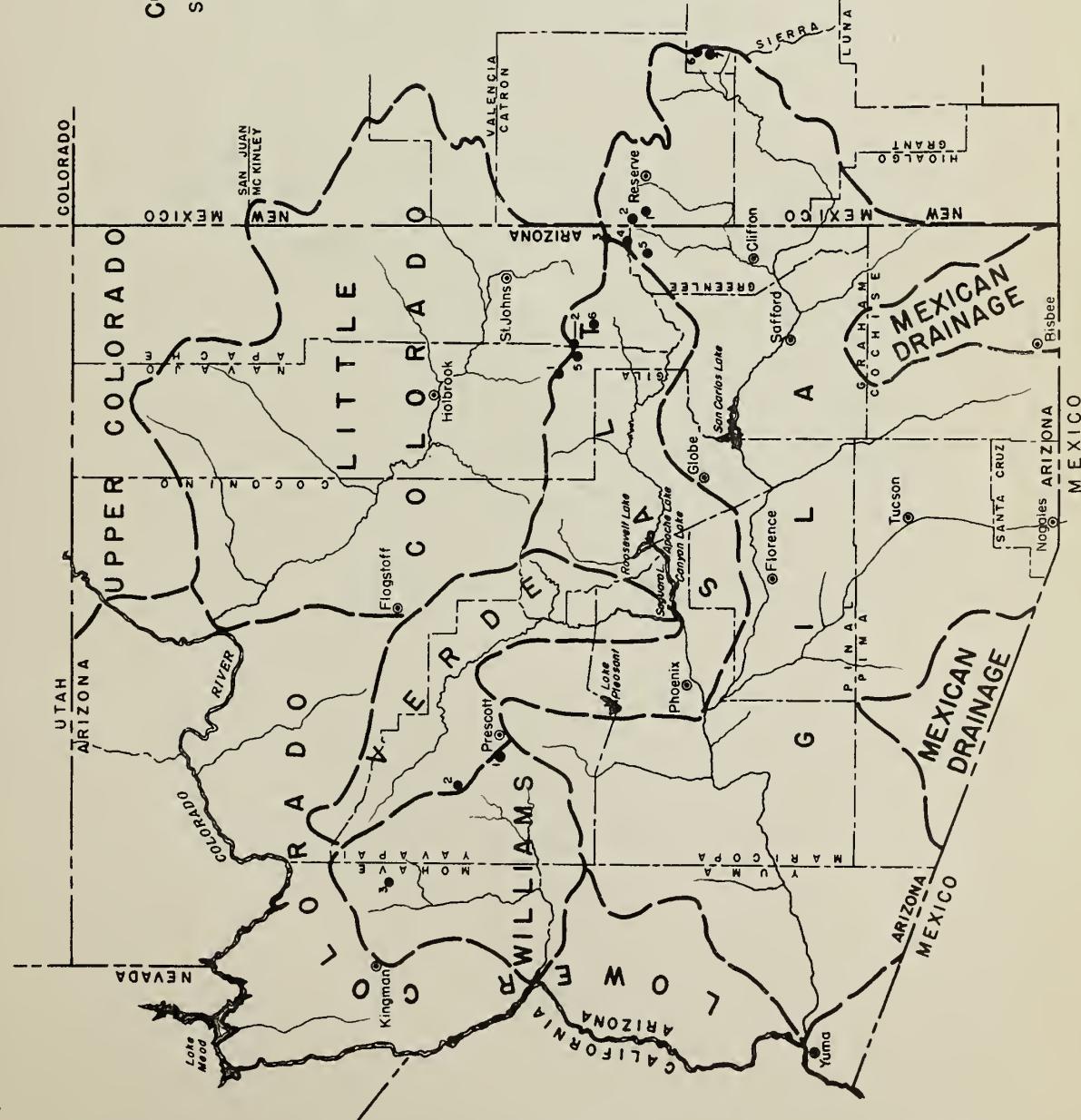
October 16, 1945

SCALE IN MILES

32 0 32 64

### INDEX TO SNOW COURSES

Index	Name	Elevation
<u>LITTLE COLORADO RIVER</u>		
1.	Forest Dale	6,000
2.	McMurry	7,200
3.	Barlow	8,500
<u>MILKHOUSE RIVER</u>		
1.	Iron Springs	6,200
2.	Crags Ranch	5,700
3.	Hilltop Ranch	5,000
<u>GILA RIVER</u>		
1.	(1st.) Tucso Divide	8,000
2.	(1st.) State Line	8,000
3.	Barlow	8,500
4.	Coronado Trail	8,000
5.	Sevier Head	8,000
6.	(2nd.) Taylor Creek	7,000
7.	(3rd.) Indian	7,500
<u>YERICO RIVER</u>		
1.	Iron Springs	6,200
2.	Camp Wood	5,700
<u>SALT RIVER</u>		
1.	Forest Dale	6,000
2.	McMurry	7,200
3.	Barlow	8,500
4.	Coronado Trail	8,000
5.	Wilk Ranch	7,000
6.	McWay	8,250





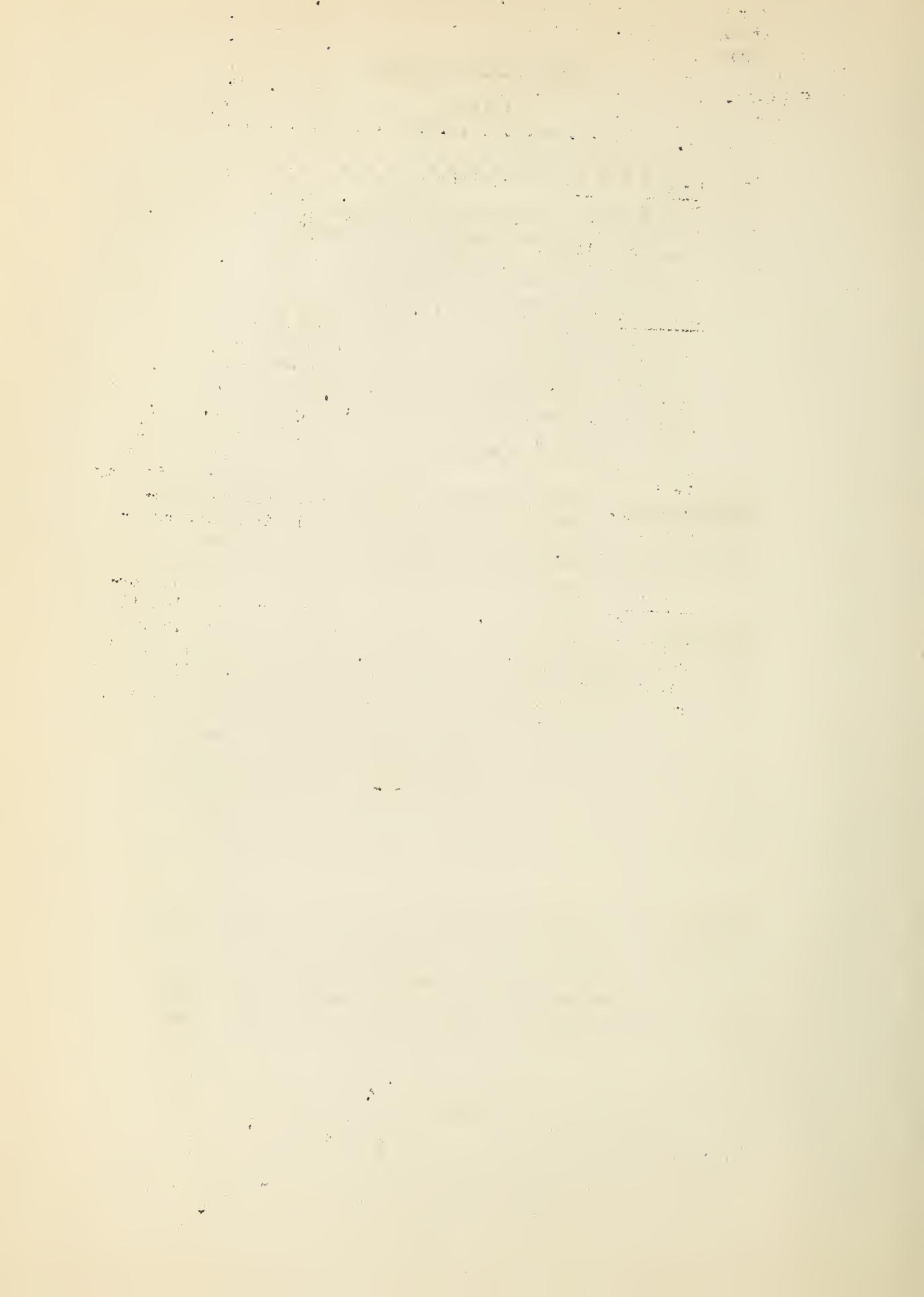
## WATER SUPPLY OUTLOOK

Arizona  
March 15, 1946

Precipitation Since February 1 precipitation throughout Arizona has been below normal. In the irrigated valleys this has resulted in extremely dry soil conditions while on the higher elevations it has resulted in a deficient run-off for reservoir storage.

Snow Cover As of March 15, 1946 general snow cover on the major watersheds of the state has equaled or exceeded the all time low for the period of snow survey records. The average of the Gila Watershed courses is very low with most of the snow courses bare, while conditions on Salt River Watershed are only slightly better. Recent snow melt has resulted in good soil moisture conditions on the higher elevations of the Gila and Salt while the irrigated valley soils are either very dry or drying out rapidly. General snow cover and soil moisture conditions on the Little Colorado and Williams Rivers are below normal.

Runoff Stream discharge over the state was below normal during February, with some record breaking low flows approached. Flow of Little Colorado and Salt Rivers was about 40 percent of normal, which was the lowest in eight years for the Salt during this month. Gila River ran about 60 percent of normal while the Verde was only



about 30 percent. For this month this was the lowest flow on the Verde since 1904. Williams River continued below normal. In general the maximum flow of Arizona streams occurs during March, but with snow conditions on the higher elevations of the watersheds extremely poor, there is very little possibility of much improvement in stream flow.

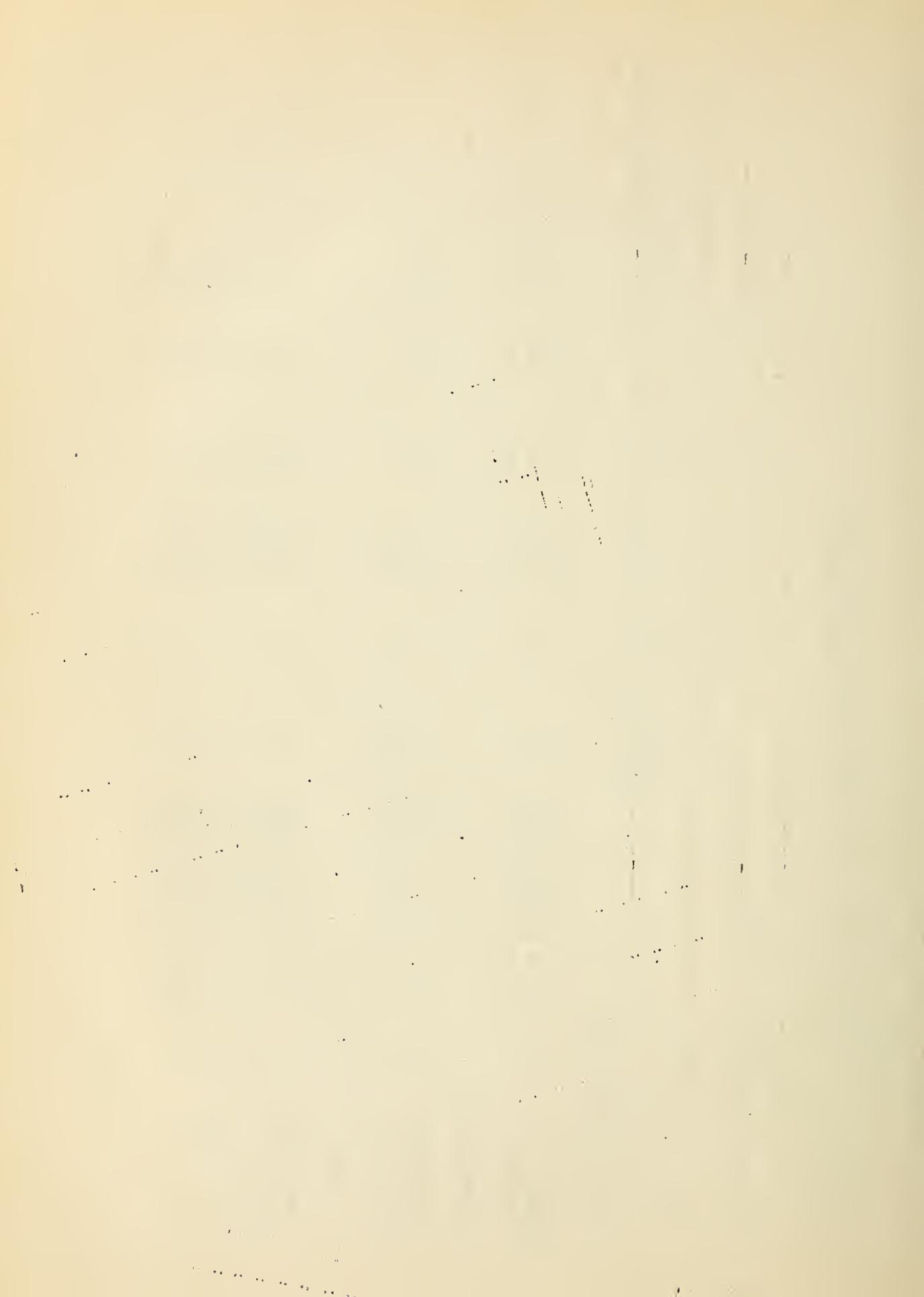
Reservoir Storage Present water storage in practically all of the important Arizona reservoirs is nearing a record low for this date. Lake Mead is 98 percent of storage last year and 92 percent of the 1939-45 average while Salt River Reservoirs are 71 percent of last year and 77 percent of the 1931-45 average. San Carlos Reservoir is 27 percent of storage for this date last year and 11 percent of the 1931-45 average with Bartlett only 5 percent of last year and 2 percent of the 1941-45 average. Lake Pleasant is 37 percent of last year and only 8 percent of the 1931-45 average. Lyman Reservoir on Little Colorado is 50 percent greater than last year but about 50 below the 1941-45 average. The new reservoir created by Horseshoe Dam above Bartlett on the Verde has shown a slight loss in storage since February 15.

Valley irrigated soils are very dry, precipitation is below normal, spring snow pack on the higher elevations is deficient, run-off continues below normal, and reservoir storage during the period at which it should be maximum for the year is very low in most instances. This all points to a precarious irrigation agriculture in Arizona for the coming season.



SNOW SURVEYS MARCH 15, 1946

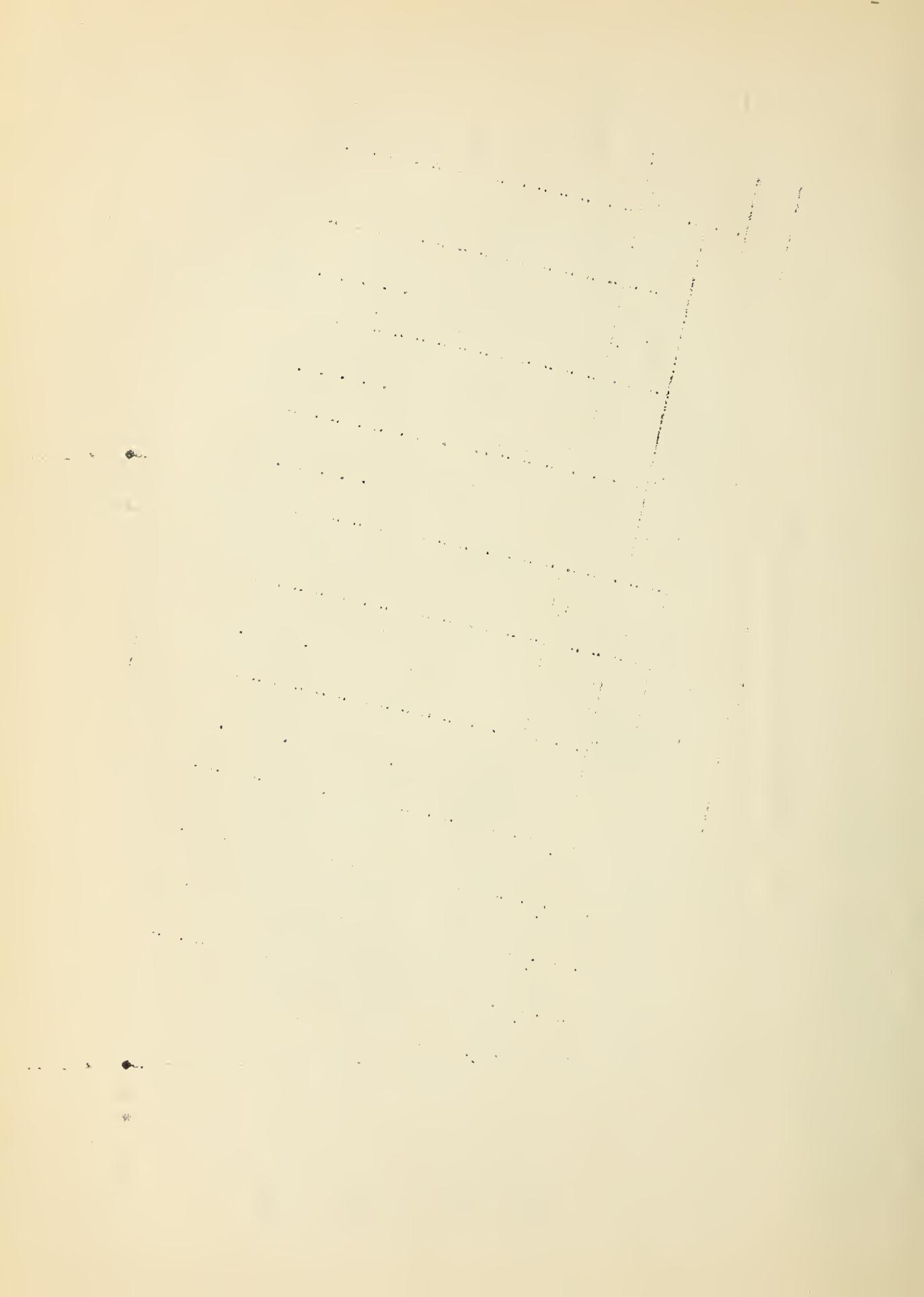
BASIN AND SNOW COURSE		LOCATION		SNOW COVER MEASUREMENTS									
				March 15, 1946		Actual:		March 15 Water Depth		1946 as of		Years : Percent	
Name		Number : Sec. : Twp. : Rge. : Elev.		Snow Water		Date		1945		1944		Average : of : of	
				Depth : Depth		of		Survey: (inches) : (inches)		(inches) : (inches)		Record: Average	
				(inches)									
LITTLE COLORADO RIVER													
Forest Dale	1	2	9N	21E	6000	0	0	3/15	6.9	0.7	0.3	7	0
McNary	2	14	8N	23E	7200	1.4	0.6	3/15	2.8	6.0	2.5	7	24
Nutrioso	3	23	6N	30E	8500	0	0	3/15	1.6	1.8	1.3	7	0
WILLIAMS RIVER													
Iron Springs	1	22	14N	3W	6200	0	0	3/19	New	"	Course	1	
Camp Wood	2	3	16N	6W	5700	1.1	0.2	3/15	"	"	"	1	
Willow Ranch	3	16	21N	11W	5000	0	0	3/14	"	"	"	1	
GILA RIVER													
Frisco Divide	1	31	6S	20N	8000	1.7	0.2	3/15	3.4	2.2	1.5	7	13
State Line	2	6	6S	21W	8000	0	0	3/15	4.4	2.5	2.2	7	0
Nutrioso	3	23	6N	30E	8500	0	0	3/15	1.6	1.8	1.3	7	0
Coronado Trail	4	26	5N	30E	8000	0	0	3/15	4.4	2.0	3.0	7	0
Bearer Head	5	13	4N	30E	8000	0	0	3/15	4.4	1.1	2.6	7	0
Taylor Creek	6	20	10S	10W	8500	0	0	3/15	0	0	0.1	5	0
Imran	7	11S	10W	7800	0	0	0	3/15	New	Course			



SIGHTS AND SURVEYS IN GREECE, 1765.

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DE SISTEMAS DE COMPUTACIÓN

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STATUS OF RESERVOIR STORAGE AS OF MARCH 15

In the following tabulation water storage in important Arizona reservoirs as of about March 15, 1946 is compared with storage as of approximately the same date in 1945, 1944 and with the designated average.

Storage Reservoirs	Stream Basin	Capacity Acre-Feet	1946	1945	Acre - Feet in Storage	about March 15	Average	Years used for average
Lake Mead	:Lower Colorado	31,142,000	: 21,263,000	: 21,591,000	: 22,642,000	: 23,171,000	: 1939-1945	:
Salt River Reservoirs	:Salt	: 1,770,000	: 670,769	: 939,512	: 1,132,670	: 868,595	: 1931-1945	:
San Carlos	:Gila	: 1,200,000	: 29,440	: 110,000	: 278,000	: 267,533	: 1931-1945	:
Lake Havasu	:Lower Colorado	: 688,000	: 615,524	: 592,300	: 595,600	: 534,342	: 1939-1945	:
Bartlett	:Verde	: 179,500	: 1,759	: 38,067	: 114,785	: 109,113	: 1941-1945	:
Lake Pleasant	:Agua Fria	: 178,500	: 3,510	: 9,723	: 27,332	: 43,538	: 1931-1945	:
Horseshoe	:Verde	: 60,000	: 9,402	: 9,402	N E W	R E S E R V O I R		
Lyman	:Little Colorado:	: 28,500	: 4,020	: 2,600	: 3,540	: 8,776	: 1941-1945	



LIST OF SNOW SURVEYORS

<u>SNOW COURSE</u>	<u>SURVEYOR</u>
Forest Dale . . . . .	Ward T. Kindred
McNary . . . . .	Ward T. Kindred
Nutrioso . . . . .	R. L. Diggs
Iron Springs . . . . .	Ernest Saxby
Camp Wood . . . . .	Mrs. C. C. Merritt
Willow Ranch . . . . .	Tiny Miller
Frisco Divide . . . . .	Dean M. Earl
State Line . . . . .	Dean M. Earl
Coronado Trail . . . . .	R. L. Diggs
Beaver Head . . . . .	Jes Burke
Taylor Creek . . . . .	F. M. Inman
Inman . . . . .	F. M. Inman
Milk Ranch . . . . .	Ward T. Kindred



The following organizations cooperate in the Arizona snow survey work:

STATE

Nevada Agricultural Experiment Station  
Reno, Nevada

FEDERAL

Department of Agriculture  
Forest Service  
    Apache Forest  
    Prescott Forest  
Soil Conservation Service  
    Division of Irrigation

Department of Commerce  
Weather Bureau  
    Arizona Section

Department of Interior  
Bureau of Reclamation  
    Region III  
Geological Survey  
    Arizona District  
Indian Service  
    Fort Apache Reservation

Gila Water Commission  
Safford, Arizona

IRRIGATION PROJECTS

Salt River Valley Water Users Association  
Phoenix, Arizona

San Carlos Irrigation and Drainage District  
Coolidge, Arizona

Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

